

## LORIUS CARDINALIS,

Specimens have been obtained by Baron N. de M.-Maclay at the Rongador Reef, 100 East of the Solomon Islands. The specimens were caught on the rigging of the schooner "Saidie F. Caller."

Count Salvadori, has intimated that my *Rhipidura Cockerelli*, is not a good species (see Ibis 1880, p. 129.) hinting that it might be an accidental variety of *Sauloprocta tricolor*. I do hope that after handling some hundreds of specimens of *S. tricolor* in all its varieties, I am not likely to mistake a bird so very distinct; has Count Salvadori compared my description with *S. tricolor* and *S. motacilloides*?

The same remarks are applicable to his note on my *Astur soloensis*, as being identical with *A. etorques*, of which latter I have seen over fifty skins from New Ireland and the Duke of York Group, &c. Living in a country where few works of reference are to be had, I am always glad to be set right as to matters of nomenclature, but I think my learned friends at the antipodes should wait until they have seen the specimens in question, or at least carefully compare the descriptions before expressing an opinion contrary to that of the author who has had the specimens before him.

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 ON SOME NEW AUSTRALIAN MARINE ISOPODA—Part II.

BY WILLIAM A. HASWELL, M.A., B.Sc.

[Plates III. and IV.]

FAMILY IDOTEIDÆ.

Genus IDOTEA.

*Idotea caudacuta*, *sp. nov.*, Plate IV., fig. 4.

Length of body about three and two-thirds the greatest breadth. Head nearly twice as broad as long, front deeply concave.

Thoracic segments increasing slightly in breadth posteriorly. Epimera of first segment not distinct; those of second, third and fourth small; the rest larger; those of the sixth and seventh segments produced to an angle posteriorly. Greatest breadth of the abdomen more than half the length; in old specimens there is a low rounded mesial dorsal ridge; the extremity narrowing suddenly and rounded in old specimens but sub-acute in younger. Internal antennæ very short, scarcely reaching the extremity of the third joint of the peduncle of the outer pair; basal segment of the peduncle short and thick, quadrate; second segment shorter and much narrower than the first; third as long as the first, slender, cylindrical. External antennæ nearly equal in length to the head and first six segments of the thorax; three basal joints short and stout, fourth the longest; flagellum longer than the peduncle, tapering, composed of about twenty articuli. Colour very inconstant, sometimes olive-green, sometimes rich brown variously marked with bands of dull yellow. Length of largest specimen  $1\frac{3}{4}$  in.

*Hab.* Griffiths' Point; Port Philip; Tasmania.

The nearest described ally of this species appears to be *I. stricta* of Dana, from which it is distinguished, among other points, by the much greater number of joints in the outer antennæ.

*Idotea excavata, sp. nou.*

Length of body about four and a-half times the greatest breadth. Head very small, much narrower than the thorax. Epimera of the last six thoracic segments distinct, increasing in size posteriorly—the last three acutely angulated behind. Abdomen about twice as long as broad, scarcely equal in length to the last four segments of the thorax, terminated posteriorly by a concave border bounded on either side by an acute tooth. Internal antennæ short, a little longer than the three basal segments of the peduncle of the outer pair: flagellum shorter than the last segment of the peduncle. Outer antennæ about

two-thirds of the length of the body; the peduncle slightly compressed dorso-ventrally, the two last joints nearly equal in length, longer than the others; flagellum composed of about twenty articuli. Length  $1\frac{3}{4}$  in.

*Hab.* Tasmania (Australian Museum).

Allied to *I. elongata*, Miers, but having the thorax very much broader in proportion to the length.

#### FAM. SPHÆROMIDÆ.

##### Genus *CILICÆA*, Leach.

The following four species together with two described in the first part of this paper all agree with the *Cilicæa Latreillii*, of Leach in having the penultimate segment of the abdomen prolonged, at least in the males, into a process or spine, in having the last segment dilated anteriorly, and more or less excavate at the apex—the excavation being with or without a central lobe—and in having the outer ramus of the uropoda incapable of folding under the inner. Of these *C. tenuicaudata*, *C. crassicaudata* and *C. crassa* agree with one another and with Leach's species, and differ from the other three, in having the immobile ramus of the uropoda rudimentary; but *C. crassa* again differs from *C. tenuicaudata* and *C. Latreillii*, and agrees with the other species mentioned, in having a mesial lobe in the centre of the posterior abdominal notch. Such differences are regarded as of generic value in this family, but for the present I prefer to retain all the species mentioned in the genus *Cilicæa*—the common characters afforded by the produced abdominal segment and other points constituting them a sufficiently natural group.

#### 1. *Cilicæa hystrix*, *sp. nov.*, Plate III., fig. 1.

Head and body armed above with numerous slender, needle-like spines. Head short and broad, armed anteriorly with close-set, short, delicate spines, and with a pair of thicker bifurcate horns

directed upwards, forwards, and outwards near the posterior margin. First segment of the thorax with a similar pair of bifurcate horns, its lateral border prominent, tridentate; following segments short, each with a single transverse row of slender spines, the lateral angles very acute—that of the fifth segment bifurcate. First abdominal segment with two prominent spines on its proximal dilated portion—the posterior process extending nearly as far as the extremity of the abdomen, forked at the tip. Last segment with two rounded elevations, each armed with several spines, with a deep, rounded terminal notch, immediately above which is a prominent spine. Eyes large and prominent; antennæ subequal, nearly one-third of the length of the body. Mobile ramus of uropoda bifurcate, the outer branch short, tooth-like, the inner long, slender, spiniform; immobile ramus broad proximally, but slender and spiniform distally, its outer border armed with two acute teeth, its inner with one. Length  $\frac{3}{4}$  in.

*Hab.* Port Stephens—five fathoms (Australian Museum).

## 2. *Cilicæa spinulosa*, *sp. nov.*, Plate III., fig. 3.

Head large and dilated, covered with rounded and pointed tubercles. First segment of the thorax much broader than the rest, armed with a number of short blunt spinules, and with a prominent bifid tubercle on either side; its lateral process obscurely bilobed. Following segments each armed with a row of short spinules which are more numerous and smaller on the last three segments; epimeral processes prominent, subacute, except that of the fifth, which is emarginate. First segment of the abdomen ornamented at the base with a double transverse row of tubercles; posterior process finely granular, sub-cylindrical, slightly enlarged or bifid at the apex, extending far beyond the extremity of the abdomen, but not so far as the extremity of the uropoda. Terminal segment having its lateral dilatation armed with two short thick spinules; terminal notch deep. Antennæ sub-equal, about one-third of the length of the body. Uropoda

with the movable ramus slender, bifurcate, the outer branch short, tooth-like, the inner longer, slightly curved outwards, sub-acute; immobile ramus a little longer than the mobile ramus, broad at base, but tapering to the apex which is curved outwards and acute. Length  $\frac{1}{2}$  in.

*Hab.* Port Stephens and Port Jackson.

A near ally of the preceding species. Specimens from the same localities which are probably the females of this species (Plate III., fig. 2.) or of *C. hystrix* are distinguished by having all the spines of the body replaced by tubercles, by wanting the posterior process of the first abdominal segment. and by having the rami of the uropoda smaller.

*Cilicæa curtispina*, *sp. nov.*, Plate III., fig. 4.

Surface smooth. Head large, strongly arched, First and fourth segments of the thorax much broader than the others; epimera very distinct—their outer borders carinated. First segment of the abdomen finely granular, marked laterally with three depressed divisional lines, with two teeth on either side on its posterior border; posterior process short, blunt, rounded. Terminal segment having the lateral elevations pointed; terminal notch concealed from above by a prominent trilobed process the middle lobe of which is the largest. Internal antennæ separated by a tolerably large lobe; basal segment of the peduncle very large, more than half the length of the head, not much dilated, armed distally and internally with a blunt tooth; second segment scarcely half the length of the first, armed terminally with three small teeth; third segment very small; flagellum much shorter than peduncle. Outer antennæ more than a-third of the length of the body; last segment of the peduncle the largest; flagellum longer than peduncle. Mobile ramus of uropoda stout, truncate, armed with two acute teeth at its extremity and one about the middle of its outer border. Inner ramus very short, closely

applied to the border of the terminal segment, ending in two sub-acute teeth. Length about  $\frac{1}{2}$  an inch.

*Hab.* Port Philip.

*Cilicæa crassa, sp. nov.*

Surface covered with rounded granules and a short pubescence. First segment of the thorax as long as the two following; lateral angles of the thoracic segments rather prominent, sub-acute. Process of first abdominal segment very thick, closely applied and cemented to the surface of the last segment, extending beyond the apex of the latter and ending in a broad bifid extremity. Last segment of the abdomen with two conical elevations: terminal notch wide; mesial lobe triangular, acute. Immobile ramus of uropoda rudimentary, mobile ramus notched externally towards the apex and with a low blunt tooth on the inner border. Colour light brown, with many of the granules and a line bordering the process of the first abdominal segment, bright crimson. Length 1 inch.

*Hab.* Port Jackson.

Genus ZUZARA, Leach.

*Zuzara integra, sp. nov.*, Plate III., fig. 6.

*Male*.—Surface nearly smooth. Body slightly depressed, increasing a little in breadth posteriorly, greatest breadth about half the total length. Head moderately convex, with a few flat granulations. First segment of the thorax nearly as broad as the two following; all the segments of the thorax sometimes marked laterally with a series of faint longitudinal impressed lines, sometimes completely smooth. Epimera very distinct, their lateral angles produced, sub-acute, that of the penultimate segment much produced backwards. Last segment of the thorax produced in the middle line behind into a rather slender process, which is about equal in length to the three preceding segments, sub-cylindrical, but depressed dorso-ventrally, not dilated at the apex

which is truncate. First segment of the abdomen short, with well-marked divisional lines. Last segment convex, marked in the middle line near the proximal border with a faint key-hole-shaped depression, surrounded by a very obscure, granular elevation; terminal notch with a prominent narrow, clavate, mesial process. Inner antennæ separated at the base by a very small frontal process; basal segment of peduncle broad; second shorter and narrower; third slender, cylindrical, longer than the second, but not quite so long as the first and second together; flagellum rather longer than the peduncle. Outer antennæ with the peduncle stout, last joint the longest, flagellum nearly twice as long as the peduncle. Rami of the uropods thin and leaf-like, immobile ramus falciform with a truncate apex; mobile ramus ovate-lanceolate in outline, concave upwards with a raised margin, much longer than the inner, and extending far beyond the extremity of the abdomen.

*Female*.—Differs from the male mainly (1) in wanting the posterior prolongation of the last thoracic segment, (2) in the absence of the terminal notch (3) in the smaller size of the uropoda the rami of which are nearly equal, the mobile ramus being capable of being entirely concealed under the inner.

A common species in Port Philip; also found in Tasmania.

I have placed this and the following species in the same genus with *Zuzara diadema* and *Z. semi-punctata* of Leach,\* all three being characterised by the prolongation backwards of the last segment of the thorax in the male, and by the possession of a posterior mesial notch occupied by a slight median process. Both the species herein described have the outer ramus of the uropoda capable of folding underneath the inner. The present species differs from *Z. semi-punctata* in the process of the last thoracic segment not being granulous at the base or punctated above, and in having the outer ramus of the uropoda truncate instead of

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\* Dictionnaire des Sciences Naturelles, tome xii., p. 344.

pointed. From *Z. diadema* it differs in not having the process of the last thoracic segment terminally dilated.

*Zuzara emarginata*, *sp. nov.*, Plate III., fig. 5.

Surface nearly smooth, very finely punctate. Head rather prominent, narrowing gradually towards the front. First segment of the thorax not quite so long as the two following taken together; sixth segment as long as the first; seventh segment very large, nearly concealing the abdomen; median posterior process very long, extending far beyond the extremity of the abdomen, slightly curved downwards, emarginate at apex—a prominent, acute tooth on either side of the segment near the base of the process. Last segment of the abdomen with a rounded swelling on either side. Terminal notch deep—about one-sixth of the width of the abdomen; mesial lobe very prominent, extending beyond the boundaries of the notch, truncate and faintly emarginate. Basal joint of the internal antennæ very large, notch for second joint wide with a prominent tooth on either side; third joint slender, not longer than the second, flagellum shorter than the peduncle. Outer antennæ much longer than the inner, more than a third of the length of the body, fourth and fifth segments of the peduncle subequal, flagellum longer than the peduncle. Outer ramus of uropoda subovate—the outer border nearly straight, the inner convex, the apex subacute; inner ramus of about the same length as the outer, bent directly backwards about the middle of its length, apex subacute; both rami fringed with hair. Colour light red with darker spots on the thorax. Length  $\frac{1}{2}$  inch.

The females and young males have the seventh thoracic segment small, the posterior process short or absent, the mesial lobe less prominent, and the uropoda relatively smaller.

*Hab.* Griffiths' Point, Western Port.

This species is apparently a tolerably near ally of *Cymodocea armata* of Milne-Edwards\* (from Australia), but in the latter

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\* *Hist. nat. Crust.*, tome 3, p. 215, pl. 31, fig. 16.



species the posterior prolongation of the seventh thoracic segment is described and figured as conical, and the posterior lobe as bifid.

Genus CYMODOCEA, Leach.

*Cymodocea bidentata*, *sp. nov.*

Body clothed with slender hairs which are scanty on the anterior thoracic segments, but longer (some about one-sixteenth of an inch) and more abundant on the abdomen and uropoda. Head strongly convex, smooth. First segment of the thorax longer than the two following together, ornamented with faint longitudinal lines of minute granules; lateral border strongly ridged; antero-lateral angle acute, postero-lateral rather blunt. Following thoracic segments more or less distinctly granular. First abdominal segment distinctly granular, produced backwards towards the middle dorsal line, with a short thick process on either side. Terminal segment with two large tubercles near the middle and a transverse line of three more near the distal extremity. Terminal notch wide, the median process prominent, broad, rounded at the extremity. Basal joints of the inner antennæ oblong, granular, separated by an acute frontal process; second joint small; flagellum about equalling the peduncle in length. Outer antennæ longer than the inner. Inner ramus of the uropoda longer than the outer, obliquely truncate, each terminating in a small acute spine. Length  $\frac{1}{2}$  inch.

*Hab.* Griffiths' Point, Victoria.

This species bears some resemblance to *C. Latreillii* of Leach, but the blunt form of the terminal lobe, as well as the shape of the uropoda etc., sufficiently distinguishes it.

*Cymodocea trispinosa*, *sp. nov.*, Pl. III., fig. 7.

Surface nearly smooth. Greatest breadth nearly half the length. First segment of the thorax scarcely so long as the second and third together. Outer border of all the thoracic segments ridged; epimeron of last segment produced backwards into an uncinat

process. First abdominal segment short, with the divisional lines distinct; its posterior border with a wide shallow excavation bounded on either side by a rounded tooth with an obscure denticle internal to it. Last abdominal segment granular and hairy, with a low elevation about its middle. Posterior notch deep, its angles produced and acute, a little more prominent than the mesial lobe which is conical and acute. Outer ramus of uropoda longer than the inner, ovate-lanceolate, acute, inner extending beyond the extremity of the abdomen, acuminate. Colour uniform light red. Length  $7/16$ ths inch.

*Hab.* Griffiths' Point, Victoria.

*Cymodocea coronata*, *sp. nov.*

Head and thorax as in *C. bidentata*, but with the hairs shorter. Abdomen rather depressed, covered with short hairs, ornamented with six small pointed tubercles arranged in a circle—two near the posterior border of the first segment, the rest on the second. Terminal notch very wide—nearly a third of the breadth of the abdomen: mesial lobe very large, dilated at its base, but narrowing towards its apex which is blunt. Mobile ramus of uropoda much shorter than the immobile ramus, sub-falciform, truncate. Inner ramus very long, extending far beyond the extremity of the abdomen, long-ovate, apex rounded. Length  $\frac{1}{2}$  inch.

*Hab.* Griffiths' Point, Victoria.

An ally of *C. aculeata*, mihi, but distinguished, besides other points, by the greater relative shortness of the mesial lobe and the smallness of the mobile ramus of the uropoda.

*Cymodocea tuberculata*, *sp. nov.*, Plate III., fig. 8.

Greatest breadth exactly half the total length. Head and first segment of body smooth—the latter equalling in length the three following segments together. Last six segments of the thorax each ornamented with a regularly arranged row of tubercles—their epimeral portion clothed with a long pubescence. First

segment of the abdomen with two short triangular processes projecting backwards from its posterior border, separated from one another by an interval equal to a fifth of the breadth of the segment; on either side of this another, less prominent, tooth. Last segment with two compressed, irregular elevations near its proximal end, each formed by a cluster of five teeth; rest of the surface smooth. Lateral angles of the notch prominent, acute, projecting beyond the extremity of the mesial lobe, which fills up all the notch and is cemented to its borders except at the apex, which is rounded. Outer ramus of the uropoda very broad, spoon-shaped, closely fringed with hairs; inner narrower and shorter, but projecting a little beyond the angles of the notch. Length about  $\frac{1}{2}$  an inch.

*Hab.* Port Stephens, five fathoms.

#### Genus SPHEROMA, Labr.

*Sphæroma* ? *acuticaudata*, *sp. nov.*, Plate III., fig. 9.

Greatest breadth of body about two-thirds of the total length. Head broader than long, bordered anteriorly and laterally by a thickened margin which is continuous with the eye; an obscure, mesial, longitudinal carina on the anterior half and a number of smooth, flattened tubercles. Surface of the thoracic segments smooth, each bordered with short hairs; first segment not so long as the two following taken together; lateral borders of thoracic segments carinate; the postero-lateral angles acute. Last segment of the abdomen slightly dilated—an acute spine about its centre, below which is a transverse band of short hairs; a deep, rounded median posterior notch, with prominent acute angles. Basal joint of internal antennæ much compressed, not much longer than broad, separated from its fellow by a small rounded frontal lobe; second joint sub-triangular, more than half the length of the first; third about half the length of the second and slender; flagellum rather shorter than the peduncle. Outer antennæ more than half the length of the body; terminal joint of the peduncle longer

than the rest. Outer ramus of uropoda longer than the inner, projecting far beyond the extremity of the abdomen, lanceolate-acute, with an acute tooth on its inner border. Inner ramus extending slightly beyond the extremity of the abdomen, acuminate. Length  $\frac{3}{4}$  in.

*Hab.* Griffiths' Point; Port Philip.

FAM. ÆGIDÆ.

Genus ÆGA, Leach.

*Æga cyclops, sp. nov.*

Surface finely punctured. Breadth about two-fifths of total length. Segments of the thorax subequal, epimera of last five produced behind to a point. Abdomen little narrower than the thorax. Terminal abdominal segment sub-triangular—the apex rounded. Eyes confluent, occupying nearly all the upper surface of the head. Uropoda with the outer ramus smaller than the inner, narrow, ovate-acute; the inner broad and obliquely truncate; an acute triangular process arising from the peduncle extends beyond the middle of the inner rami. Length  $7/16$ ths in.

*Hab.* Port Jackson.

Genus CIROLANA, Leach.

*Cirolana lata, sp. nov.*, Plate IV., fig. 1.

Surface finely punctured. Greatest breadth about half the total length. Head received into a depression in the anterior border of the first segment of the thorax. First segment of the thorax as long as the two following segments; posterior segments all short; epimera of last four produced backwards to an acute angle. Abdomen much narrower than thorax. Terminal segment triangular, sub-acute. Legs thick and very spinose. Outer ramus of caudal appendages much narrower than the inner, but of about equal length, sub-acute; inner slightly sigmoid, sub-acute, armed with a tooth on its inner edge; basal spine narrow,

acute, about half the length of the inner ramus. Length  $\frac{5}{8}$ ths inch.

*Hab.* Off Broughton Islands, near Port Stephens, dredged in about twenty-five fathoms.

### FAM. TANAIIDÆ.

#### Genus APSEUDES, Leach.

*Aapseudes australis*, *sp. nov.*, Plate IV., fig. 2.

Head broad; a triangular acute rostrum between the bases of the antennæ, with a mesial and two lateral shallow grooves; a short spine in the middle of the epistome. Thoracic segments transverse, the epimera large, sparsely setose. Abdomen ornamented with a few longish fine hairs; terminal joint as long as all the rest together, twice as long as broad, rounded at the extremity. First joint of the internal antennæ long, compressed, longitudinally grooved; second joint scarcely one-third of the length of the first; third very small; flagellum as long as peduncle; secondary flagellum nearly two-thirds of the length of the principal flagellum. Lower (outer) antennæ scarcely longer than the flagellum of the upper; the second joint of the flagellum the largest, a lamelliform ovate appendage fringed with slender hairs situated at its inner and distal angle; third joint very small; fourth nearly as long as the second, but narrower; last joint smaller than the fourth; flagellum equal in length to about two-thirds of the peduncle, ornamented with slender hairs. First pair of thoracic limbs with the merus, carpus and propodos compressed, the merus triangular with its distal border transverse, with a strong seta at each distal angle and a few fine hairs; carpus smaller with its distal border oblique, a strong seta at its supero-distal angle; propodos narrower than the carpus but longer, its distal border short, transverse, a strong spine on either side of the point of insertion of the dactylos; rather compressed, slightly hooked at the end. Second pair of thoracic limbs with the basos very broad, a small tooth on its posterior border; a

tooth on the lower border of the merus, carpus triangular, elongate, propodos dilated, its digital prolongation with a rounded lobe near the base. Length about  $\frac{1}{2}$  an inch.

*Hab.* Broughton Islands, dredged in about twenty-five fathoms.

Genus PARATANAIS, Dana.

*Paratanais tenuicornis, sp. nov.*, Plate IV., fig. 3.

Antennæ short; inner pair stout, the basal segment about three times as long as the second, and the latter twice as large as the last, which is very small. Outer antennæ more slender than the inner; last joint smaller than the penultimate, which again is as long as the two preceding taken together. First pair of legs very stout; propodos curved, dactylos slightly geniculate. Caudal appendages short, flagellum with seven articuli. Length about  $\frac{1}{4}$  inch.

*Hab.* Port Stephens.

FAM. ARCTURIDÆ.

Genus ARCTURUS, Leach.

*Arcturus longicornis, sp. nov.*

None of the segments of the thorax greatly elongated. Head broader than long, longer than the first segment of the thorax; frontal border deeply concave. A pair of pointed spinous tubercles on the head, on each segment of the thorax and on each of the first two segments of the abdomen. Terminal segment sub-acute, with a pair of rounded tubercles near its apex. Internal antennæ longer than the head; first segment of the peduncle short and thick, second and third segments sub-equal. Outer antennæ with the peduncle equal in length to the head and thorax—the fifth joint much longer than all the rest together. Length, exclusive of antennæ, more than two inches.

The somewhat mutilated specimen from which the above description was taken was in the Australian Museum collection without locality attached, but pinned on a sheet of cork together

with a number of specimens from Tasmania, and perhaps came from that colony. It differs from *A. Baffinii*, Sabine, as figured by Milne-Edwards, in the great length of the terminal segment of the peduncle of the outer antennæ—the fourth and fifth segments being represented as sub-equal in the figure of that species.

*Arcturus brevicornis*, *sp. nov.*, Plate IV., fig. 5.

Head rather shorter than the first three segments of the thorax, smooth; first three segments of the thorax subequal, short, each with one or two minute, rounded tubercles above; fourth segment much elongated, with a tubercle above—between the anterior end and the middle. Abdomen as long as the last three segments of the thorax. Outer antennæ thick, about as long as the head and first four segments of the thorax, second and third segments subequal, fourth the longest, fifth longer than the second; fourth and fifth each with three or four short setæ below; flagellum about two-thirds of the length of the last segment. Anterior limbs subequal, slender, first slightly stouter than the rest. Length of body about  $\frac{3}{8}$ ths inch.

*Hab.* Off Broughton Island, near Port Stephens, dredged in about twenty-five fathoms.

EXPLANATION OF PLATES III.—IV.

Plate III.

- Fig. 1.—*Cilicæa hystrix*  $\times 3\frac{1}{2}$ .  
 ,, 2.—Female of the same (?)  $\times 3\frac{1}{2}$ .  
 ,, 3.—*Cilicæa spinulosa*.  
 ,, 4.—*Cilicæa curtispina*  $\times 4$ .  
 ,, 5.—*Zuzara emarginata*.  
 ,, 6.—*Zuzara integra*  $\times 3$ .  
 ,, 7.—*Cymodocea trispinosa*  $\times 3\frac{1}{2}$ .  
 ,, 8.—*Cymodocea tuberculata*  $\times 3\frac{1}{2}$ .  
 ,, 9.—*Sphæroma acuticaudata*  $\times 3\frac{1}{2}$ .

## Plate IV.

Fig. 1.—*Cirolana lata* × 4.

- „ 2.—*Apseudes australis* × 4; 2*a*.—internal antennæ; 2*b*.—first pair of thoracic legs; 2*c*.—second pair × 22.
- „ 3.—*Paratanais tenuicornis* × 4; 3*a*.—internal antennæ; 3*b*.—external antennæ; 3*c*.—caudal appendages; 3*d*.—first pair of legs × 22.
- „ 4.—*Idotea caudacuta*; natural size.
- „ 5.—*Arcturus brevicornis* × 8; 5*a*.—first pair of legs; 5*b*.—second pair of legs × 44.

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 NOTES AND EXHIBITS.

Baron Macleay exhibited photographs and dissections of the brains of a Malay, Chinaman, and Australian Aboriginal; drawings of the brain of *Echidna Hystrix*, and various marsupials; photographs of the hairless family, Ballonne River; and many other sketches and photographs made during his last tour.

Dr. Cox exhibited a series of fossil seeds procured from a shaft sunk for gold at the Forest Diggings between Carcoar and Orange and at a depth of over 100 feet below the surface. They belong to the genera *Pentonne*, *Spondylostrobos*, *Phymatocarzon*, *Rhytidocarzon*, and three not determined.

Mr. Haswell exhibited the *Isopoda* described in his paper.

Mr. Ramsay exhibited a large number of Solomon Island and New Guinea Birds.

Mr. Brazier, C.M.Z S.,—A *Voluta mammilla* from Tasmania, a young specimen three inches long; also Part 9 of Vol. III., of Tryons Manual of Conchology (*Tritonidæ*).

Hon. Wm. Macleay—A fine series of *Gorgonias* and rare shells from Endeavour and Torres Straits.